

REMARKS

This Response is in reply to the Office Action dated October 19, 2004. Applicants submit that this Response is fully responsive and meets the requirements of MPEP §§ 714.02 and 714.04.

General Comments

Applicants appreciate the courtesies extended to Applicants representative during a brief telephonic interview on October 27, 2004. The Examiner, during the brief telephonic interview, indicated that the amendment filed on July 22, 2004 has been entered into the record. However, the Examiner has requested an explanation of the distinguishing features of claims 14 and 20 over the applied prior art.

Previously Added Claims

Claims 6-20 were previously added for the Examiner's consideration. Applicants note that the amendment filed on July 22, 2004 incorrectly indicated that claim 16 is an independent claim. As correctly noted by the Examiner, claim 14 (and not claim 16) is an independent claim. Applicants apologize for this oversight.

As to the allowability of claim 14, Applicants submit that U. S. Patent No. 6,065,495 to Fong or U. S. Patent No. 5,771,933 to Akamatsu, alone or in combination, do not teach or suggest, an equivalent structure capable of:

....reducing a fluid pressure of the wheel brake by adjusting an attracting force between a movable core and a fixed core when the brake fluid pressure of the wheel brake is higher than an attracting force of a given value....

Also, these references, alone or combination, do not show an equivalent structure of claim 20 capable of:

... adjusting a brake fluid pressure in the wheel brake on an ascending or descending slope by adjusting a current to an electromagnetic valve disposed between a movable core and a fixed core to increase or decrease an attracting force between the movable core and the fixed core,

wherein after the brake fluid pressure of the wheel brake is lowered to a given value under the control of the adjusting means, a value of the current applied to the electromagnetic valve is lowered to reduce the attracting force acting on the movable core, the brake fluid pressure of the wheel brake becomes higher than the attracting force that can close the electromagnetic valve, and the high brake fluid pressure of the wheel brake acts on a seal surface so that a valve body is separated from a valve seat of the seal surface against the attracting force to thereby open a valve hole so that the electromagnetic valve is opened and in the opened state, the fluid pressure of the wheel brake is returned through the valve hole to the master cylinder to lower the fluid pressure of the wheel brake above the given value.

The electromagnetic valve of Fong is a two position, three-port electromagnetic valve, in which any of the ports is still communicated with the other even if it is energized. In Fong, the two-position, three-way solenoid-actuated valve includes an electromagnetic coil assembly engaging a valve assembly to move a ball between a first valve seat and a second valve seat via the use of springs 42 and 66 to provide directional flow control. The valve springs have a certain force that must be overcome in order to provide the functions of this valve system.

Additionally, in Fong, the use of a blow off assembly is provided to limit the pressure in the brake circuit when the solenoid actuated valve is actuated. Fong shows opening a pathway by energizing a coil assembly 68. (See, col. 6, lines 16-34.) Fong then shows reducing the brake pressure by use of the blow off valve, during this energizing state, by overcoming a spring force of spring 66. This is not the same or even remotely similar to setting an attracting force between a movable and fixed member to a given value to allow an electromagnetic valve to be opened against the attracting force to thereby reduce the brake fluid pressure of the wheel brake down to the given value. Instead, Fong discloses overcoming a spring force in order to limit the pressure of the brake fluid via the use of a blow off valve. (Col. 6, lines 37-55.)

In addition, features of claim 20 are also not shown in the Fong reference. For example, Fong does not show adjusting a brake fluid pressure in the wheel brake on an ascending or descending slope by adjusting a current to an electromagnetic valve disposed between a movable core and a fixed core to increase or decrease an attracting force between the movable core and the fixed core. (See, above discussion.) Also, in Fong, being a two-position, three port electromagnetic valve, any one of the ports is still communicated with the other even if it is energized. However, for example, in claim 20, when the electromagnetic valve of the invention is energized, communication between the two ports is shut.

Akamatsu was previously used to show the use of recessed and protecting portions formed on the fixed and moveable cores. This feature is not of issue with regard to independent claims 16 and 20.

Conclusion

Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Andrew M. Calderon', with a long horizontal line extending to the right.

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